



The Flightline



Volume 54, Issue 3 Newsletter of the Propstoppers RC Club, AMA 1042, November 2024



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STOP PRESSES!

Yesterday, we were made aware that we will lose CA Field On May 31st 2025. The Board is looking into all possible new opportunities. If you have any leads, or possible locations, please let the Board know.

President's Message

Gentlemen,

It was personally very rewarding to serve as your president over these last six years. With the help of many of you we were able to navigate through the Covid epidemic, and the new FAA rules and regulations. Your cooperation and assistance are greatly appreciated. I would like to especially thank our new President, Paul Pujol, who was instrumental in acquiring our FRIA status with the FAA for both fields. We have seen our membership grow from the mid forties to just over sixty.

Many of you gave your time and assistance with the work required to improve both fields. Through these endeavors the membership has become more active and united. As Paul requests your assistance with the projects we have in the works, I know you will respond as in the past.

Thanks to Pete Oetinger, we have a thorough and transparent budgeting and auditing process. He also took over and improved our website.

I hope to see, interact, and learn from many of you as I plan to continue to fly on a regular basis.

Keep'em flying,

Mike

Fields at Elwyn and CA are now fully open for members and guests, 8 AM to sunset every day all year round. (CA-electric only, Elwyn - Sunday mornings from 8AM to Noon electric only.

LOA with Philadelphia International:
Please comply with the following rules to stay in compliance with our FAA Agreement:

- Maximum altitude 400 feet
- In case of Fly-Away call 215-492-4123 immediately. This is a direct line to the TRACON Office at Philadelphia International Airport.

Tuesday morning breakfast at the Tom Jones Diner starts at 9:00am Flying outdoors at Ewyn or indoors at Brookhaven Community Center Gym follows at 10:00.

Members and guests must complete a waiver of liability form to fly at Brookhaven Gym.

**Propstoppers RC Club of
Delaware County,
Pennsylvania.**

Club Officers

President:
Mike Black

Vice President:
Paul Pujol

Secretary:
Michael Black

Treasurer:
Pete Oettinger

Membership Chairman:
Ryan Schurman

Safety Officers:
Eric Hofberg
Ryan Schurman

Newsletter Editor:
Larry Woodward

FacebookEditor:
Ryan Schurman

Webmaster:
Michael Black

Propstoppers Web Site;
www.propstoppers.org

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**Indoor Flying at the
Brookhaven Gym**

The Brookhaven Community Gym is open to members Tuesdays at 10:00-11:00.

Indoor pilots must sign a waiver of liability form.



Minutes of the Propstoppers Model Airplane Club

General Membership Meeting Minutes from September 21, 2024,

Call to order: 11:00 am at CA Field. 18 members were present.

Treasurer's Report: \$5,400 on hand. On track for the budget year.

Membership: no report

Website: no Report

Newsletter: Larry hopes to have an issue out this fall.

Safety: No issues reported.

Drexel: Dave reported that the Drexel professor had taken the summer off, but they plan to have full classes again in the Fall Term. Members are encouraged to assist the program. Members to be available to assist the teams with model set up are especially valuable during the test flight events.

New Business:

Field Work –

Grass cutting has begun for the season.

Elwyn – Thanks to Paul for mowing additional walkways around the field perimeter. Elwyn is now mowing the field twice a year and it has never looked better. Some grading/filling and rolling may be helpful.

CA Field – Additional brush cutting events will be scheduled for the winter to finish clearing the entire field.
Picnic tables will be sought out by the club and provided for the new area to be enjoyed.

Picnic Dates-

Saturday September 28th
Saturday October 19th
1/1/2025 – Freeze Fly

TFR's-UASidekick APP is the preferred tool. Do not rely on AMA notification.

New Business:

Elections- Nominations for 2025 Officers will take place at the October meeting.

The following officers will be resigning at the end of this year and will not run again:

Mike Black - President (Elected Position)

Ryan Schurman- Membership Chair (Appointed Position)

Eric Hofburg - Safety Officer. (Appointed Position)

Elections will be held at the November meeting.

CA Field Structure - Discussion about installing a shed structure at CA Field to accommodate Paul's mower, possible solar powered charging station, and storage of grills and other miscellaneous equipment. Giles will investigate options and report back.

Elwyn Field- Discussion about moving the "Fringe" area at Elwyn 10' further out toward Rt. 352. This will encourage landings to be further out from the "Pit tables" and the trees.

Adjourned: 11:30am

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General Membership Meeting Minutes from October 19, 2024,

Call to order: 11:00 am at CA Field. 17 members were present.

Treasurer's Report: \$5,062 on hand. On track for the budget year.

Membership: No new members at this time.

Website: No changes at this time. Please send copies of any club related photos to Pete and Larry for publication in the Website and Newsletter.

Newsletter: Larry expressed his concern that the newsletter content is increasingly limited to announcements and "articles" pulled from the internet. It no longer has significant content contributed by the membership about member activity. In earlier times it was a rich compendium of build articles, show and tell, model reviews and member activity. He is questioning it's value to the membership and wondering if it is worth the work needed to produce it.

Safety: No issues reported.

Drexel: Dave reported that Drexel has begun the fall term with 40 students in 10 groups. He is expecting a busy term with all hands on deck needed for the final flight testing.

New Business:

Elections- Nominations for 2025 Officers, by unanimous acclaim;

President- Paul Pujol
VP -Matt Hatfield
Treas.- Pete Ottinger
Secy.- Michael Black

Voting will be held at the next meeting, November 9, 2024.

Chester County- The Chester County Club is acquiring a new field located on a former Landfill site. The expectation is that this will be a unique opportunity for, perhaps, the finest slope soaring in the region.

Adjourned: 11:30am

General Membership Meeting Minutes from November 9, 2024,

Call to order: 12:01 am at CA Field. 14 members were present.

Treasurer's Report: Pete reported \$5,600 in the bank, which is about 1 year's worth of club expenses.

Dues remain the same cost (\$90/yr.) as 2024 with the same PayPal fee of \$3.00 if paying that avenue. \$100 dues after 12/31/2024.

Budget presented from Pete for 2025 with slight increases in some areas but no major changes from the prior year.

Category	2024	2025 BUDGET
AMA Charter and Field Insurance	\$ 300	\$ 300
Grass Cutting	\$ 3,045	\$ 3,000
Extra Cutting at Fields	\$ 200	\$ 500
Crab Grass/Poison Ivy Treatment	\$ 480	\$ 500
Roll Fields	\$ 300	\$ 300
Picnics Food and Beverage	\$ 385	\$ 400
Website Hosting and Newsletters	\$ 128	\$ 128
Indoor Flying		
Miscellaneous (Mulch, Tips, etc.)	\$ 315	\$ 500
TOTAL	\$ 5,153	\$ 5,628
Misc. Comments	Picnic tables (\$120), chainsaw blades etc. (\$94), signs for fields (\$101)	
Other Comments		
Number of Flying Fields	2	2
Estimated Ending Club Balance		
	Data as of Nov 4, 2024	
Number of Club Members		62
Estimated Dues per Member		\$ 90.77

Membership:

2025 Due invoices will be sent shortly.
60 active members expected for 2025.

Newsletter: Larry is looking for content to include in the final newsletter of this year.

Website: No update or complaints about the upgraded website.

Safety: No safety issues reported.

New Business:

Field Work –

CA Field Shed discussion brought up. Galvanized shed for enough storage for a mower, propane and other things that could fit. Solar kit would be optimal for charging and other power emergencies.

Dave Harding motioned for vote on the purchase of a shed and its installation costs. Motion was seconded and carried unanimously.

Paul is going to execute this purchase and coordinate the building and installation.

The Club agreed to pay Paul \$100 for brush cuts and Paul agreed to continue to complete these cuts. Thank you Paul!

Michael Black reiterated how Chuck has taken care of both our fields at minimal cost to us. So as a club we should always be sure to be friendly and thankful for his continued contributions to our hobby.

Picnic Dates-

1/1/2025 – Freeze Fly No weather date so come prepared. Club will provide coffee and donuts.

Drexel – Dave gave the lecture on 9/7/2024 to the Drexel students. Plan to be at Elwyn Field Saturday November 23 rd for first field experience.

Elections- .

Nominations opened with no additional nominees named.
Michael Black motioned for a vote to elect the nominees by acclimation.
Vote was seconded.
Vote carried unanimously.

Propstoppers Officers in 2025:

President: Paul Pujol
VP: Matt Hatfield
Treasurer: Peter Oetinger
Secretary: Michael Black

Adjourned: 12:32 pm

Editor's Notes:



By Larry Woodward

We just finished our November meeting and voted in a new generation of leadership.

Mike Black leaves behind a formidable record of accomplishment. He stood up and accepted the job of President, for a second time, at a point when we were losing membership, and leadership, at an alarming rate. The Covid pandemic constrained our activities and halted familiar traditions, like monthly indoor meetings, that made it even more difficult to foster strong relationships among the members. Under Mike's leadership we have managed to come out the other side stronger than ever with a healthy roster of enthusiastic members, improved fields and solid management. Thank you Mike!

Incoming President Paul Pujol brings, first and foremost, an enthusiasm and endless energy that would be the envy of any organization. As former Vice President he has already made his mark, both physically and figuratively. His enthusiasm is contagious and draws others to the field, and to the organization as a whole, in a way that will be vital

to the future of the club. Thank you Paul for stepping up at this, also critical, time as the club continues into an uncertain, but hopeful, future.

In this issue I have continued on to Part 2 of the History of Aviation. This section covers the critical years between the World Wars when the work of the early pioneers was expanded exponentially. This was the start of the 20th Century engineering revolution that would usher in a new concept of globalization and would, beyond imagination, take us to the moon.

Speaking of technology, I have included an interesting article, submitted by Dave Harding, about a new solar powered microelectromechanical aircraft, the CoulombFly that sets new records for "getting smaller". You may not have noticed, but I frequently feature articles about the significance of size in relation to developments in aircraft development. Yes, "size" does matter.

My obsession with the subject started a few years ago with a discussion I had with Dave about scaling up model plans. He very patiently explained to me the fundamental science behind problems, and opportunities, in making things bigger and smaller. It has influenced my viewpoint and appreciation of many aviation milestones. In fact, I would argue that we are at a very interesting point of deflection right now with regard to aviation science and development. To me the history of aviation, and most engineering, in the 20th century has been all about making things bigger, and presumably better. Now the Twenty First Century has ushered in a new era focused on making things smaller, and better. If you think the microelectromechanical Coulombfly is something, imagine what they will do with Nanoelectromechanical technology.

If you think you can take the heat, check out Dave's article that originally got me started on "Scaling Laws" located in the Endnotes and Links section on the last page of this newsletter. By the way, there is lots more of interest there too.

This issue is quite late in coming. I confess I was distracted most of the year by other things that have been taking over my life since retirement.

Some of them are very good, like new friendships, hobbies and interests. Others are less so, like fatigue and aching joints that come with an aging body. At our last meeting I mentioned that I don't know how much longer I am going to continue as Editor. I asked the question whether or not the membership really needs the Newsletter any longer, at least in its traditional form. Please give it some thought. Either way, the *Flightline* is in your hands and will rise or fall with the new generation.

Finally, I want to thank both Dave Harding and Andy Peterson for their steadfast support. I could not have done any of this without them.

19 Oct 2024 Propstoppers Picnic at Gateway Field

By Andy Peterson



Figure 1 Picnic Prep



Figure 2 Waiting to Fly



Figure 3 Waiting for Burgers and Dogs

Figure 4 Model Rocket Prep



Figure 5 Fire in the Hole

Figure 6 Run Like Hell



Figure 7 Telling the Rocket Which Way to Go



Figure 8 Rocket away



Figure 9 Launch Trail

Figure 10 Rocket on its Way



Aurora and Boeing's Next X-plane: A High-Speed Blended-Wing Stealth Transport

Submitted by Dave Harding



Boeing has unveiled a new X-plane design. The Aurora Flight Sciences division has announced in a May 20 statement, “a game-changing, high-speed, vertical lift X-plane” for US Defense Department needs in Speed and Runway Independent Technologies (SPRINT).

Working on a new vertical lift transport

Aurora Flight Sciences announced in a May 20 statement that the firm is working on design reviews for a Defense Advanced Research Projects Agency (DARPA) program called Speed and Runway Independent Technologies (SPRINT); according to a March 9, 2023, DARPA announcement, “The SPRINT Demonstrator Project aims to design, build, certify, and fly an X-Plane to demonstrate the key technologies and integrated concepts that enable a transformational combination of aircraft speed and runway independence for future air mobility platforms. The SPRINT X-Plane is not intended as a pre-production aircraft for a specific operational capability but as a proof-of-concept technology demonstrator. The SPRINT X-Plane project will seek to validate technologies and integrated concepts that can be scaled to different size military aircraft, provide these aircraft with the

ability to cruise at speeds from 400 to 450 Knots at relevant altitudes and hover in austere environments (near unprepared surfaces).”

In other words, this X-plane will be a technology demonstrator intended for future aircraft designs for multiple air mobility platforms that do not need long runways. Aurora Flight Sciences will incorporate various new technologies, such as numerous lift fans and remote flight, while using traditional propulsion to reduce risk.

Below is another potential look at what the X-plane will look like:

Trip to Old Rhinebeck Aerodrome in New York

by Andy Peterson

On the 21st and 22nd of September 2024, Andy Susan, and two friends visited Cole Palen's Old Rhinebeck Aerodrome located just North of the Village of Rhinebeck and just South of the Village of Red Hook near the East banks of the Hudson River about 100 miles North of New York City.

This Aerodrome was the creation of Cole Palen, who grew up in the 1920's on a farm in upstate New York near an airfield where he could see aircraft such as the Curtiss JN -4 (Jenny) from about 1917 still flying. As he got older, his interest in these old aircraft increased as did his ability to fly some of the aircraft.

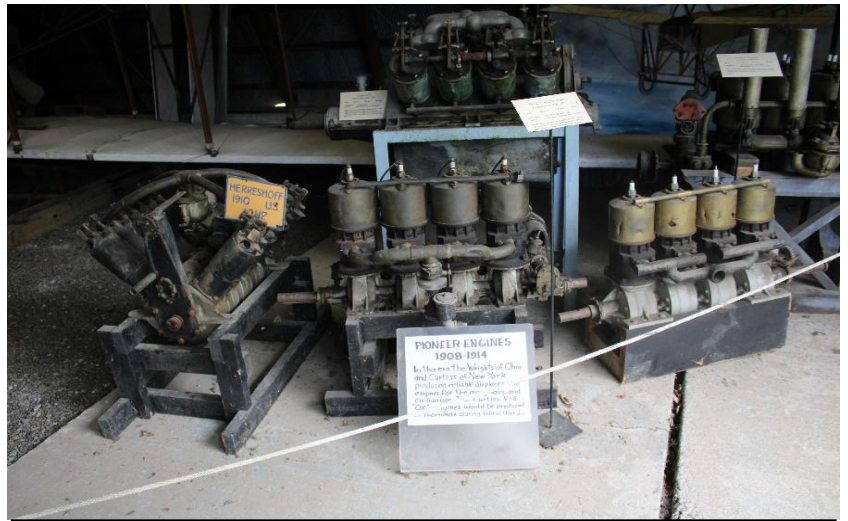


Figure 1 Pioneer Engines 1908 -1914

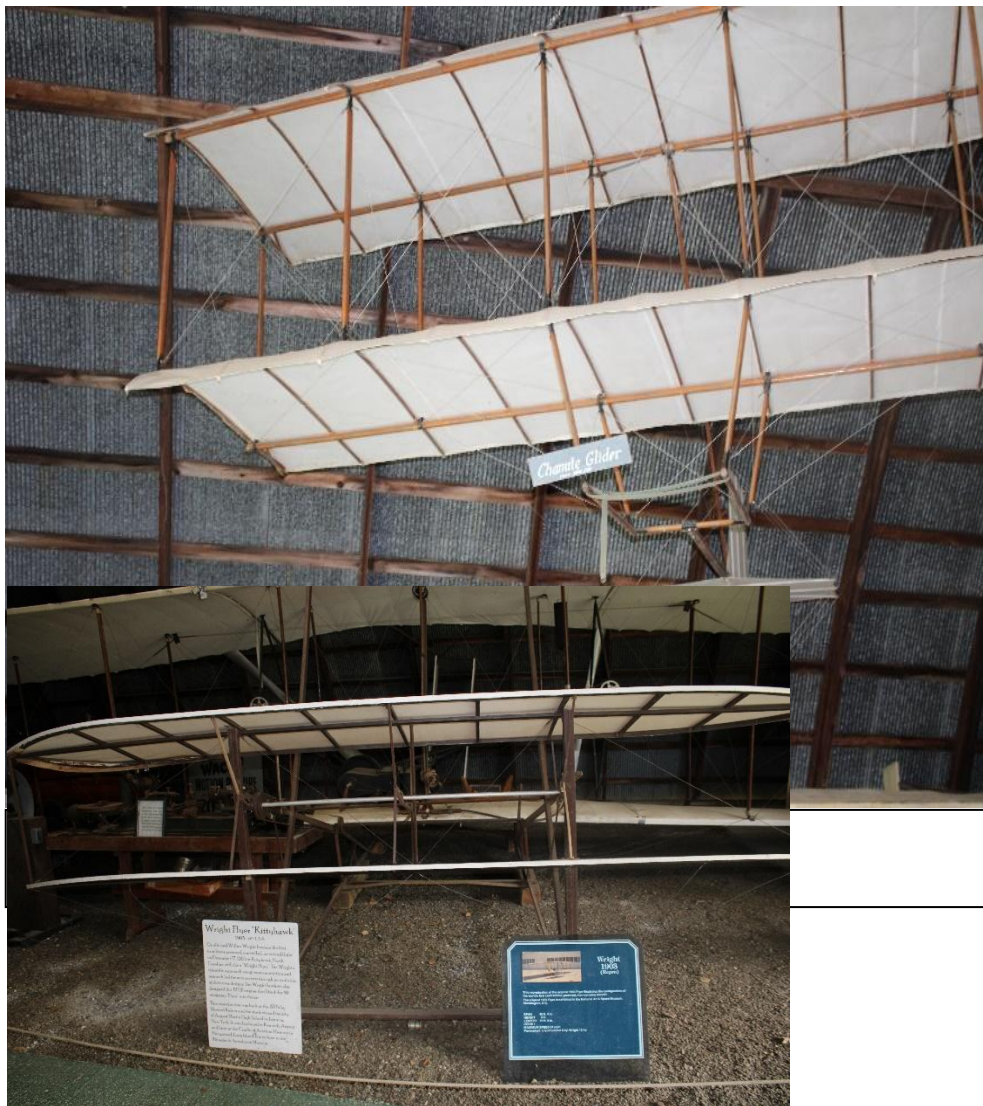


Figure 3 Wright Flyer 1903 Kittyhawk (rep)

The Second World War came and Cole was drafted and ended up in the Battle of the Bulge. When he returned, he began taking flight and mechanic training at Roosevelt Field on Long Island. While training at Roosevelt Field he found that the schools Museum, which housed a number of First World War aircraft, was to be taken down to make room for a shopping center. Cole put a bid in on several old aircraft, and found that he now had as many as six old aircraft and parts, but he had 30 days to remove them. Cole and friends managed to get the aircraft and parts out in time with nine 200-mile trips to the family farm and into the chicken coups.

Cole was able to purchase an abandoned farm in Northern Dutchess County for back taxes. After clearing the rocks from the fields, Cole and friends created a North-South runway of about 1000 feet, which was enough to start flying. By 1960 enough people were showing up that Cole and the other pilots began putting on airshows. In 1993 Cole suffered a stroke, ending his flying, and eventually his life, but he founded The Rhinebeck Aerodrome Foundation which continues today.



Aerodrome to

Today the Museum is open Daily from May through October.

Figure 5 Wright EX Vin Fiz 1911

The Airshows are every Saturday and Sunday (weather permitting) from Mid-June through Mid-October. In addition, there is an Annual R/C Model Meet in early September.

Rhinebeck Aerodrome housed 84 airplanes dating 1908 to 1948 and an 1895 Chanute Glider (rep). Of these aircraft, 25 are active flyers.

The first part of our visit, after parking, was a trip to the Museum and one of the open Hangers.

In the
hanger:



open

Figure 6 Nieuport 2N French 1911



Figure 7 Marane Saulnier N French 1914, 80 Hp Lerhone. Grand-Daddy of Modern Fighters.. First to carry a forward firing machine gun. Steel plates installed on the back of the props to deflect bullets



Figure 8 Fokker DR-1 Triplane 1917 110hp Lerhone

After touring the hangar and museum, we headed down to the flight line where the real action would begin. There are airshows on Saturday and Sunday starting at about 2:30 pm (weather permitting) Mid-June through Mid-October.

The Saturday Show is primarily a showcase of the various operating aircraft which included the Ryan “Spirit of St Louis”, an array of Fokkers (DR-1, D-6, D-7, D-8), a Sopwith Pup and Camel.

The Sunday Show is based on a Melodrama featuring the Black Barron vs Dudley Du-Right and his Girl, where the Black Barron captured the girl and Du-Right chases after them, both in the air and in old cars.

This is followed by a 4 aircraft dogfight, including the Fokker Tri-plane, Fokker D-7, Sopwith Pup and Sopwith Camel, and some smoke trailing stunt flying.



Figure 9 1916 Sopwith Pup



Figure 10 1917 Curtiss JN-4 (Jenny)



Figure 11 1927 Ryan "Spirit of St Louis"



Figure 12 1918 Fokker D-8, 1943 Boeing Stearman, 1930 Fleet Model 1, 1931 Great Lakes



Figure 13 1916 Bristol F.2B BRISFIT



Figure 14 1911 Curtiss D



Figure 15 1911 Curtiss D Attempting Takeoff but could not obtain sufficient airspeed on this day (not enough head wind)



Figure 16 Fokker's DR-1 and D-8 in foreground



Figure 17 1918 Fokker D-8 on Take-Off Run. The Pilot was Brian Coughlin a member of the Rhinebeck Aerodrome Museum Board of Trustees. Two Weeks after this Photo was taken, Brian's D-8 developed an engine fire (5 Oct 2024) while on a pre-show flight. Brian did not survive the crash.



Figure 18 1917 Fokker DR-1 in Hot Pursuit



Figure 19 1927 Spirit of St Louis on Take-Off Run

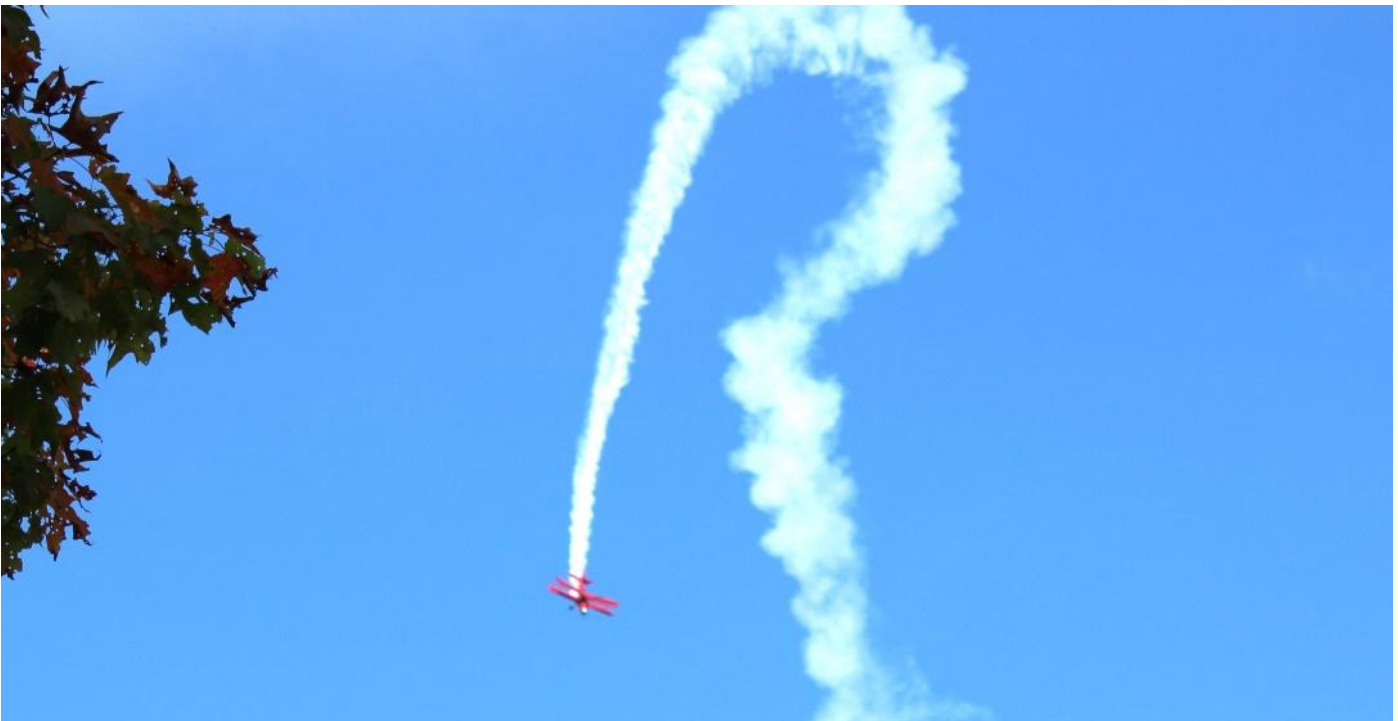


Figure 20 Smoke Trails

The Smallest, Lightest Solar-Powered Drone Takes Flight

It weighs less than a nickel and can fly nonstop while the sun shines.

Submitted by Dave Harding

Charles Q. Choi

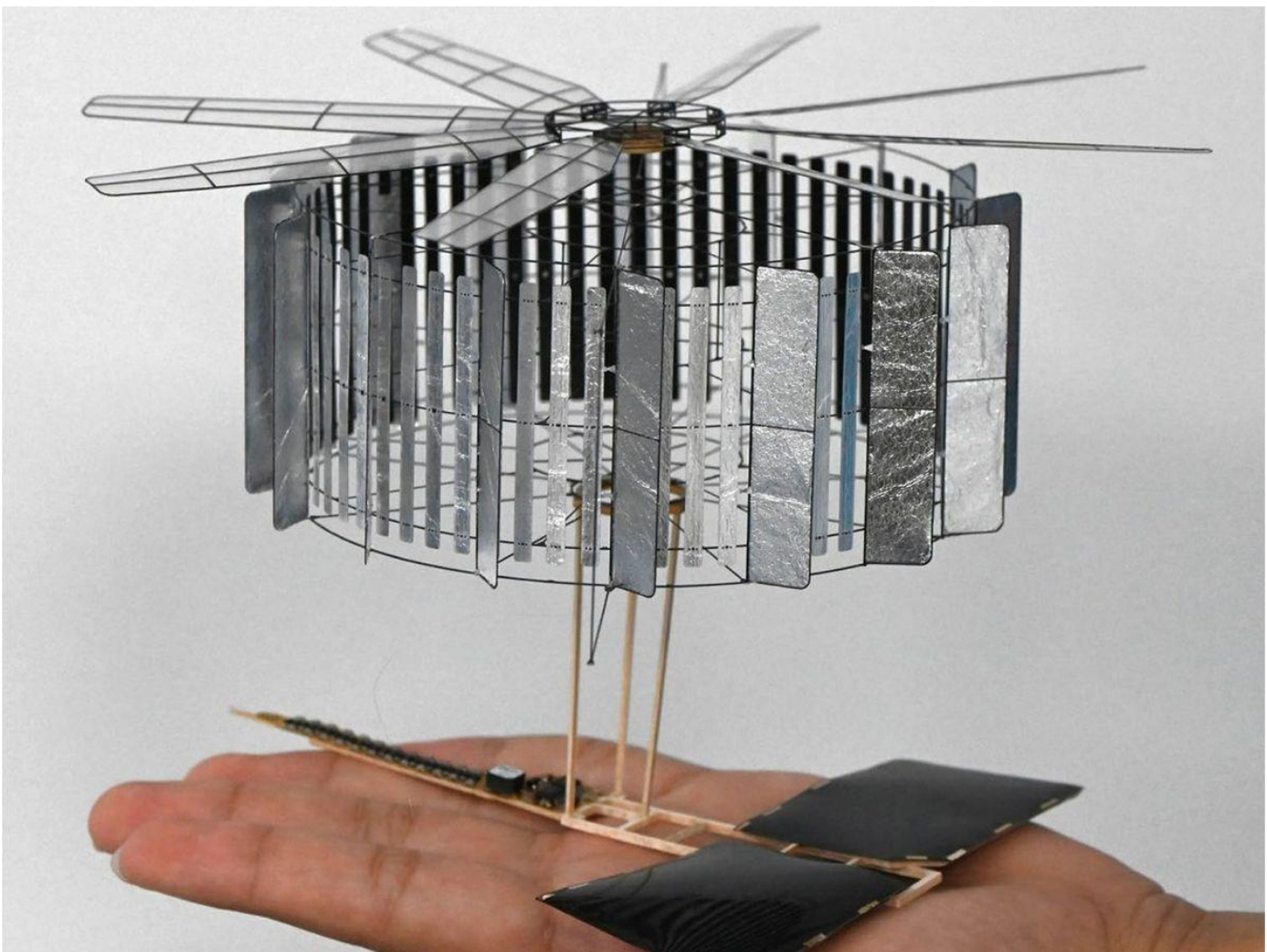
17 Jul 2024

Charles Q. Choi is a Contributing Editor for IEEE Spectrum.

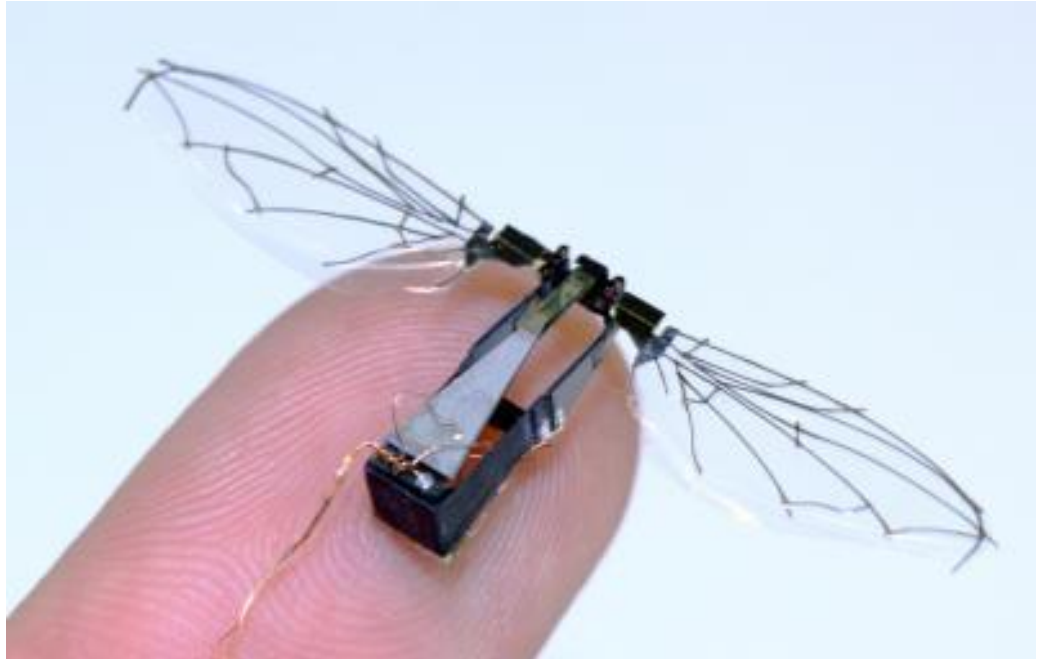
https://spectrum.ieee.org/smallest-drone?utm_source=join1440&utm_medium=email&utm_placement=newsletter

The palm-sized vehicle CoulombFly weighs 4.21 grams and has a wingspan of 20 centimeters.

Scientists in China have built what they claim to be the smallest and lightest solar-powered aerial vehicle. It's small enough to sit in the palm of a person's hand, weighs less than a U.S. nickel, and can fly indefinitely while the sun shines on it.



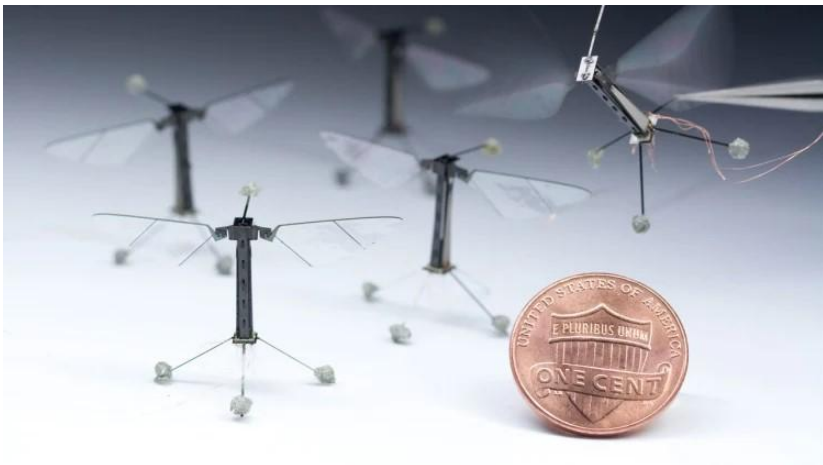
Micro aerial vehicles (MAVs) are [insect- and bird-size aircraft](#) that [might prove useful for reconnaissance](#) and other possible applications. However, a major problem that MAVs currently face is their limited flight times, usually about 30 minutes. Ultralight MAVs—those weighing less than 10 grams can often only stay aloft for less than 10 minutes.



One potential way to keep MAVs flying longer is to power them with a consistent source of energy such as sunlight. Now, in a new study, researchers have developed what they say is the first solar-powered MAV capable of sustained flight.

The new ultralight MAV, CoulombFly, is just 4.21g with a wingspan of 20 centimeters. That's about 10 times as small as and roughly 600 times as light as the previous smallest sunlight-powered aircraft, a [quadcopter](#) that's 2 meters wide and weighs 2.6 kilograms.

“My ultimate goal is to make a super tiny flying vehicle, about the size and weight of a mosquito, with a wingspan under 1 centimeter,” says Mingjing Qi, a professor of energy and power engineering at Beihang University in Beijing. Qi and the scientists who built CoulombFly developed a prototype of such an aircraft, measuring 8 millimeters wide and 9 milligrams in mass, “but it can’t fly on its own power yet. I believe that with the ongoing development of microcircuit technology, we can make this happen.”



[RoboBee from Harvards Microbotics Lab.](#)

Previous sunlight-powered aerial vehicles typically rely on [electromagnetic motors](#), which use electromagnets to generate motion. However, the smaller a solar-powered aircraft gets, the less surface area it has with which to collect sunlight, reducing the amount of energy it can generate. In addition, the efficiency of electromagnetic motors decrease sharply

as vehicles shrink in size. Smaller electromagnetic motors experience comparably greater friction than larger ones, as well as greater energy losses due to electrical resistance from their components. This results in low lift-to-power efficiencies, Qi and his colleagues explain.

CoulombFly instead employs an electrostatic motor, which produce motion using electrostatic fields. Electrostatic motors are generally used as sensors in microelectromechanical systems ([MEMS](#)), not for aerial propulsion. Nevertheless, with a mass of only 1.52 grams, the electrostatic motor scientists used has a lift-to-power efficiency two to three times that of other MAV motors with motor-slats, each made of a carbon fiber sheet covered with aluminum foil. It resembles a wooden fence curved into a circle, with gaps between the fence's posts. The outer ring is equipped with eight alternating pairs of positive and negative electrode plates, which are each also made of a carbon fiber sheet bonded to aluminum foil. Each plate's edge also possesses a brush made of aluminum that touches the inner ring's slats.

Above CoulombFly's electrostatic motor is a propeller 20 cm wide and connected to the rotor. Below the motor are two high-power-density thin-film gallium arsenide solar cells, each 4 by 6 cm in size, with a mass of 0.48 g and an energy conversion efficiency of more than 30 percent.

Sunlight electrically charges CoulombFly's outer ring, and its 16 plates generate electric fields. The brushes on the outer ring's plates touch the inner ring, electrically charging the rotor slats. The electric fields of the outer ring's plates exert force on the charged rotor slats, making the inner ring and the propeller spin.

In tests under natural sunlight conditions—about 920 watts of light per square meter—CoulombFly successfully took off within one second and sustained flight for an hour without any deterioration in performance. Potential applications for sunlight-powered MAVs may include long-distance and long-duration aerial reconnaissance, the researchers say.

CoulombFly's propulsion system can generate up to 5.8 g of lift. This means it could support an extra payload of roughly 1.59 g, which is “sufficient to accommodate the smallest available sensors, controllers, cameras and so on” to support future autonomous operations, Qi says. “Right now, there's still a lot of room to improve things like motors, propellers, and circuits, so we think we can get the extra payload up to 4 grams in the future. If we need even more payload, we could switch to quadcopters or fixed-wing designs, which can carry up to 30 grams.”

Qi adds “it should be possible for the vehicle to carry a tiny lithium-ion battery.” That means it could store energy from its solar panels and fly even when the sun is not out, potentially enabling 24-hour operations.

In the future, “we plan to use this propulsion system in different types of flying vehicles, like fixed-wing and rotorcraft,” Qi says.

[Link to the CoulombFly's flight test video:https://youtu.be/LBoee1l4OXo](https://youtu.be/LBoee1l4OXo)

History of Flight

Part 2, Pistons in the Air

Excerpted and edited by Larry Woodward

Bilstein, Roger E. , Crouch, Tom D. and Boyne, Walter James. "history of flight". Encyclopedia Britannica, 9 Apr. 2024, <https://www.britannica.com/technology/history-of-flight>.

Accessed 21 April 2024.

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Walter James Boyne

Fact-checked by
The Editors of Encyclopaedia Britannica

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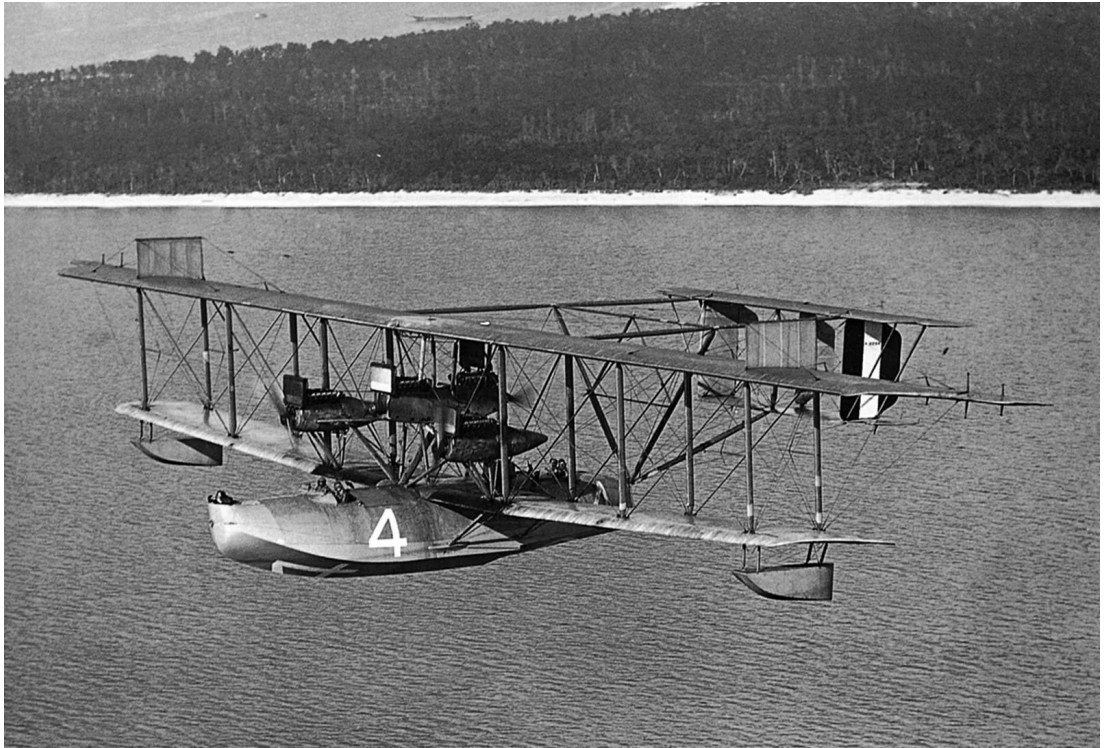
During World War I several farsighted European [entrepreneurs](#), emboldened by wartime progress in aviation, [envisioned](#) the possibilities of postwar airline travel. For many months after the war, normal rail travel in [Europe](#) remained problematic and irregular because of the shortage of passenger equipment and the destruction of tracks and bridges. In addition, chaotic political conditions in central and eastern Europe often disrupted schedules.

The situation opened many possibilities for launching airline routes. Although few airfields existed, aircraft of the postwar era could and did use relatively short sod runways for years, meaning that locating suitable [airports](#) near most cities was not the [formidable](#) engineering challenge that emerged in subsequent decades.

Characteristically, organizers of the first postwar airlines relied on stocks of inexpensive surplus military planes, especially bombers, such as the De Havilland DH-4, that could be modified to accommodate passengers and mail. Two basic types of piston engines powered the typical fabric-covered biplanes of the early postwar era. In-line engines, with cylinders aligned one behind the other or positioned in two banks in a V-type installation, required a radiator and the circulation of a liquid coolant. Radial engines, with cylinders arranged in a circle around the crankshaft, had numerous small fins on the cylinder that radiated heat to the passing airstream in order to keep the engine cool. These relatively [straightforward](#) piston-engine designs made long-range flights possible and opened a new era of passenger travel.

The headliners

In May 1919 a U.S. Navy [Curtiss NC-4](#) (successor to the [Curtiss Model E flying boat](#)) made it from Newfoundland to Portugal by way of the Azores Islands before flying on to Great Britain, compiling 54 hours 31 minutes in the air over its 23-day trip.



The following month, former British Royal Air Force (RAF) pilots [John Alcock](#) and Arthur Brown made



the first nonstop crossing of the Atlantic, requiring 16 hours 28 minutes for the journey from Newfoundland to Ireland in a Vickers Vimy bomber.

Vickers Vimy flown in first nonstop transatlantic flight, 1919

Although airlines ran newspaper advertisements after World War I, the biggest aviation headlines belonged to fliers in relatively primitive piston-engine aircraft that challenged the Atlantic and transcontinental distances.

Charles Lindbergh and his airplane Spirit of St. Louis

By 1924 the U.S. Army had completed plans to make the first [aerial](#) circumnavigation of the world, sending a quartet of single-engine Douglas “World Cruisers” westward toward Asia. These fabric-covered biplanes featured interchangeable landing gear—replacing wheels with floats for water landings. One plane crashed in Alaska, forcing the two-man crew to hike out of a snowbound wilderness. Near the end of the expedition, a second aircraft, en route to Iceland, went down between the Orkney and Faroe islands. With support from the U.S. Navy, U.S. [State Department](#), and overseas American officials during an odyssey of 23,377 miles (37,622 km) that consumed 175 days, the remaining pair of planes arrived back in Seattle. All this happened before [Charles Lindbergh](#), flying a single-engine Ryan monoplane, made his nonstop solo flight in 33 hours 30 minutes from [New York](#) to Paris in 1927. Lindbergh’s flight, in particular, demonstrated the essential reliability of improved radial engines.



In Britain, overland flights connecting colonial interests down the length of Africa drew considerable attention. Departing London, another pair of ex-RAF pilots battled [capricious](#) winds, sudden storms, equatorial updrafts, and assorted adventures before arriving at [Cape Town](#) after 45 days and three planes. [Alan Cobham](#) repeated the feat in a single-engine commercial plane, surveying a route for Imperial Airways Ltd. from 1925 to 1926. Other British pilots persevered in reaching Australia by way of India (brothers [Ross and Keith Smith](#), 1919) and across the Pacific ([Charles Kingsford Smith](#) and Charles Ulm, 1928).



The challenge of polar flights also engaged a number of daring fliers. Piloting a Fokker trimotor, [Richard Byrd](#) made claim to the first flight over the [North Pole](#) in 1926, followed by his pioneering [expedition](#) with a [Ford Motor Company](#) trimotor over the [South Pole](#) in 1929.

[Fokker used by Byrd and Bennett in their attempt to fly to the North Pole](#)

[Amelia Earhart](#)

Amelia Earhart, early 1930s.
The 1930s brought a new round of record flights by Americans. In 1931, with navigator Harold Gatty, [Wiley Post](#) piloted a Lockheed Vega 5B monoplane (named Winnie Mae for Post's daughter) around the world in slightly less than 8 days 16 hours. Two years later, with the aid of an autopilot, Post broke his world record during a solo flight of 7 days 19 hours. In 1932 [Amelia Earhart](#) became the first woman to complete a solo transatlantic flight. Five years later, during a global attempt, she disappeared somewhere over the Pacific. Aviator and industrialist [Howard Hughes](#), piloting a twin-engine Lockheed Model 14 (similar to Earhart's Lockheed 5B Vega airplane) with a four-man crew, completed a global flight in 1938 in the record time of slightly more than 3 days 19 hours. Flights like these demonstrated aviation's ability to overcome geographic barriers and shrink time-distance relationships.



Supermarine Spitfire

Supermarine Spitfire, Britain's premier fighter plane from 1938 through World War II.



In addition to long-distance records, speed records continued to rise. For example, the [Schneider Trophy](#) races, conducted in Europe between 1913 and 1931, pitted single-engine racing planes equipped with floats against each other. With entrants carrying the colours of their respective countries, considerable international [prestige](#) and technological recognition was attached to the outcome.

Designers focused on high-performance engines and streamlined fuselages. By the early 1930s, successful British racers from Supermarine, reaching about 340 miles (550 km) per hour, were contributing to the designs that led to the legendary [Spitfire](#) fighters of [World War II](#). Behind the headlines, the [collective](#) technology and operational know-how of the record-seekers contributed to modern airline travel.

A Moment in Flight:

Flight Video by Pedro Navarro

Pedro has always had a soft spot for biplanes. In this video with his WACO, he is absolutely “giddy” with delight in the plane and the music

Editor

Click below to see this issue’s Moment in Flight.

[The WACO and Moulin Rouge](#)



Endnotes and Links

[“Replicate Ordnance, Not Cheap Drones”](#)

General Prize Essay Contest—First Prize, Naval Institute Proceedings, March 2024 Vol.

150/3/1,453 Sponsored by Andrew and Barbara Taylor

By Captain Sam Tangredi, U.S. Navy (Retired)

F-104 STARFIGHTER SCALE 1:3 RC TURBINE JET FLIGHT DEMONSTRATION, impressive model and piloting. <https://www.youtube.com/watch?v=xtOS8adbgAQ>

If you enjoy RC chaos and mayhem, along with giant scale low budget foamies, you will enjoy these videos of giant RC models created to be destroyed in FliteFest’s classic mass full-contact combat events.

<https://www.youtube.com/watch?v=nKXQbJU70yw>

<https://www.youtube.com/watch?v=FyqwxCZs5SA&t=20s>

If you enjoyed the flight history article about earliest cross Atlantic flights, you might enjoy more here on the 1924 Round The World Airplane Race

https://en.wikipedia.org/wiki/First_aerial_circumnavigation

Dave Harding's essay on Scaling Laws: everything you ever wanted to know about making things (aircraft) larger or smaller.

https://drive.google.com/file/d/1fXZ2KBrxAlhzk4w0xrm8ZifE7AWbY2Xn/view?usp=drive_link

TFR Notices

By Mike Black

The B4UFLY APP will now take you directly to the FAA website, because it has become the parent organization for the TFR Apps. If you go to the FAA site, you will see several APPS.

UASidekick is now the preferred provider. Download it from your Play Store. Open the APP. Locate an AMA field on the map. Drop a pin on it by touching the map on the site you want. A white inset screen will pop up. Touch the Drop B4UFLY Pin button. If the map turns red, there is a pending or active TFR. Page down to get the details. The only tricky part is that the times are displayed in UTC, which is the same as Greenwich Mean Time, so you must subtract 4 hours for our time zone. Once you use it a few times it will become second nature.

DO NOT RELY on the emails from AMA for notifications as they **do NOT** update on weekends and there have been many changes to TFR's on weekends. Occasionally, the times change, and sometimes the TFR's get deleted. AMA does a pretty good job during the work week, but no one is there on the weekends to send out changes.

<https://www.uasidekick.app/>